

# A Time to Change

The ultradwarf bermudagrass putting green golf model is solid in the southern USA.

BY PATRICK O'BRIEN AND CHRISTOPHER HARTWIGER

There is a new business model in the Southeast Region that is improving the golf experience and reducing costs. The new model involves the replacement of creeping bentgrass putting greens with an ultradwarf bermudagrass variety. This concept has been a topic of conversation on many USGA Green Section Turf Advisory Service visits over the last five years. This article will convey what is happening, why it is happening, and how other courses have used this model to their advantage. The article stops short of providing the information to determine whether your golf course may benefit from this new business model. This information is best determined with an on-site visit and analysis of your situation.

## A NEW WORLD ORDER

A perfect storm of events has come together to accelerate the process of changing from creeping bentgrass to an ultradwarf bermudagrass.

These factors include:

**Oversupply of Golf Courses** — The traditional business practices used at golf courses are under fire these days due to difficult economic times. The oversupply of golf courses in relation to golfer demand has put downward pressure on green fees and initiation fees. Every type of golf facility, including resort, public, and private has been impacted by the economic slowdown. It is a golfers' market and there are good deals to be had. Golf courses are scrambling to compete. The hard-line strategy of cutting budgets without reducing green fees, and expecting golfers to remain satisfied or not notice, is a risky proposition.

**Difficult Economy** — The worldwide economic difficulties of the last three

to four years have impacted the golf industry in several ways. First and foremost, courses are closing because they cannot survive financially. In 2009, a total of 140 golf courses closed, and more than 100 courses have closed in each of the past four



*Dick Schulz, right, owner, and Curtis Singleton, superintendent at The Oaks Course, are so pleased with their ultradwarf putting greens that they now offer a monetary guarantee to their golfers.*

years, according to the NGF. The golf course building boom of the 1990s and early 2000s caused an oversupply of golf courses.

Fewer people are playing golf, and rounds of golf have decreased 6% nationwide since 2000, according to the National Golf Foundation. Average facility rounds have been diluted by 20%. The number of golfers has diminished, with 27.1 million golfers in 2009, down from the peak of 30 million in 2005. The numbers indicate that a new business model is vital for survival.

**Player Expectations** — Despite the difficult economic times, course operators still feel pressure from their golfing customers to provide the highest standards throughout the golf course. Even with falling prices to play

golf, golfers still have high expectations. They have choices today, and they will go elsewhere if they perceive there is a better value to be had.

**Improved Genetics** — The ultradwarf bermudagrasses (TifEagle, Miniverde, Champion) offer a dramatic improvement in quality over Tifdwarf and Tifgreen bermudagrass. Their fine-leaf texture and high density make these turfgrasses a high-quality putting surface when managed appropriately. They began replacing bentgrass in the late 1990s, and the rate of conversion is accelerating. Today, the ultradwarf greens can be found on courses from high-end private clubs to resorts to mid- to low-end daily fee courses. We have observed golfers commenting after playing a well-maintained ultradwarf bermudagrass putting green that they didn't even know what type of grass was on the greens. The catastrophic loss of bentgrass in the summer of 2010 has

further accelerated a move toward superior genetics.

**Conversion Method** — Beginning in the mid-1990s, the concept of a no-till or minimally disruptive conversion process began to take hold. Although there were many experts who questioned the responsibility of planting a high-density ultradwarf bermudagrass into a putting green rootzone that may have been less than ideal, the results have been far better than expected. We do not see any failures after regrassing with an ultradwarf.

The no-till method of conversion is a broad term that implies the ultradwarf sprigs are planted into the green surface without reconstruction or disruption of the surface contours. Bentgrass is removed in a series of non-disruptive



*Ultradwarf establishment occurs with sprigs and most often using the no-till planting method. This economical planting method has provided excellent success over the past 15 years.*

steps, and this helps to minimize the downtime. In most instances, it takes only 50 days from the planting date to reopen the greens for play, when done in the summer. In some cases, the conversion time has been even faster. The oldest no-till renovation courses have continued to perform well since the late 1990s. For more information on the no-till planting method, refer to this recent USGA Green Section Record article (<http://turf.lib.msu.edu/2000s/2007/071122.pdf>).

### **DO THE GRASSES DELIVER FINANCIALLY?**

A common question we are asked is, "How much money can we save by switching from bentgrass to an ultradwarf?" It is easy to see the potential savings in fewer fungicides, no fan use, and the elimination of wilt watching, etc., but specifics are hard to detail for a couple of reasons. First, the person asking the question is unable, most of the time, to answer this question: "How much are you currently spending on your bentgrass putting greens?" They do not know because golf course budgets are organized in a line-item fashion, not by playing area. Secondly, the course needs to know to what standard they will maintain the

ultradwarf. The resources needed to manage an ultradwarf green to a speed of 10 feet are much different from a course that wants a 12-foot-plus green speed every day.

In conversations with Dr. Mike Goatley (Virginia Tech), and Jeff Whitmire, CGCS (Williamsburg Country Club, Va.), we agreed that a survey of people who have converted from bentgrass putting greens to an ultradwarf could help resolve the question about how much money can be saved. The authors helped Dr. Goatley create the survey, and it was answered subsequently by a total of 36 superintendents. No exact cost amounts are provided, but the implications are clear.

- 96% said overall labor costs are lower on ultradwarfs compared to bentgrass greens.
- 100% of the respondents stated that labor hours are much easier to schedule for ultradwarfs compared to bentgrass putting greens.
- 98% spend less on fungicides on an ultradwarf green compared to a bentgrass green.
- 92% spend less on insecticides on an ultradwarf green compared to a bentgrass green.

- 96% spend overall less on total pesticides on an ultradwarf green compared to a bentgrass green.
- 82% say their members now want faster green speeds with an ultradwarf compared to a bentgrass green.
- 100% spend more on equipment repair and maintenance on an ultradwarf green compared to a bentgrass green.
- 100% require more equipment overall for ultradwarf putting greens compared to a bentgrass green.
- 83% perform less core aeration on an ultradwarf green compared to a bentgrass green.
- 96% topdress more often on an ultradwarf putting green compared to a bentgrass green.
- 100% decreased hand irrigation with an ultradwarf putting green compared to a bentgrass green.
- 96% responded that "push-up" or less costly methods of green construction are employed and provide high-quality green surfaces for ultradwarfs.
- 80% said that ultradwarf greens provided more playable days for golfers without adverse conditions due to aeration holes, topdressing on greens, covers, etc.



- 93% say that overall golf course conditions and playability have improved after conversion to an ultradwarf.
- 100% said that annual rounds of golf increased along with member satisfaction after conversion to an ultradwarf bermudagrass.

From the observations of the authors and travels to numerous golf courses that have made the conversion to an ultradwarf bermudagrass, these survey results indicate what we have heard from Turfgrass Advisory Service customers. First and most important, golfers like these new ultradwarf putting surfaces, and the survey indicates golfers play even more golf. Secondly, this scientific survey indicates that operational savings result from a conversion from bentgrass to an ultradwarf putting green.

In addition to operational budget savings each year, there is the question of how much conversions cost and how much revenue is lost. Putting green conversion costs generally range from \$50,000 to \$200,000. Lost revenue varies based upon the type of club — private or daily fee. When operational savings, conversion costs, and lost revenue are estimated, a golf course can calculate the amount of time it takes to recoup these costs.

There are several intangibles that can have a positive financial impact on a facility, and these are outlined below. Any course considering a conversion from bentgrass to an ultradwarf is encouraged to study each of these items and consider how it may impact your facility.

- More days of the year with putting greens that meet standards because the staff does not have to back off in the summer to preserve turf health.
- Fewer days of disruption from core aeration with an ultradwarf. An ultradwarf in the transition zone generally receives one core aeration per year during midsummer, compared with two or three per year on bentgrass putting greens. Less disruption from core aeration equals more revenue.
- There is less catastrophic risk of turf loss in the summer.
- Increased revenue opportunities during summer because the turf is

more durable. Outings are discouraged on bentgrass greens in July and August. Outings are encouraged during the summer with an ultradwarf.

### DO THE GRASSES DELIVER TO THE GOLFER?

In order for this new business model to deliver financially, the product, or in this case the putting greens, must meet or exceed golfer expectations. In our experience, there is no way to advise, convince, or assure course officials or owners about the potential for improved golfing conditions. Instead, they must get out and test the product themselves. Because the limitations of an article preclude us from taking every reader out on a homework assignment to play golf on good ultradwarf putting greens, the best we can do is share two case studies that demonstrate the success of a bentgrass to an ultradwarf conversion.

### CASE STUDY #1: THE OAKS COURSE, COVINGTON, GEORGIA

The Oaks Course is a public course that guarantees golfers will like their ultradwarf putting greens or their green fee is refunded. Further, course owner Dick Schulz will give a customer full use of his facility for the rest of the year if a customer can show him a course with better greens and playability at a lower price. So far, nobody has taken him up on this guarantee. No other course in the Atlanta area provides this guarantee. This special promotion was not offered when The Oaks Course had bentgrass putting greens five years ago.

Prior to the conversion to Champion bermudagrass, the course was not working financially. Mr. Schulz decided to create a new business model with the Champion bermudagrass with a no-till conversion. Bentgrass management costs, especially the labor costs



*Sand topdressing applications are one of the most important management practices to enhance putting quality.*



for irrigation and fungicides, caused the operational budget to rise above what he could charge to make a positive cash return. Additionally, another eight weeks of revenue was added to the business calendar annually with only one aeration event compared to three to four aerations required for the bentgrass. A total of 50 weeks of playable greens occur now, and summertime catastrophic turfgrass loss, always a possibility with bentgrass, has been eliminated with this new business model.

the USGA Green Section Record: (<http://turf.lib.msu.edu/2000s/2009/090920.pdf>).

#### **CASE STUDY #2: ATLANTA ATHLETIC CLUB, JOHNS CREEK, GEORGIA**

The Highlands Course at the Atlanta Athletic Club will host the top golfers in world at the 2011 PGA Championship. This will mark the first time a major championship has been played on an ultradwarf bermudagrass putting green. Ken Mangum, director of golf

benefits that most golfers have overlooked include not having fans running during play anymore and the elimination of workers riding around the course on wilt watch during the daytime in the summer to hand irrigate putting greens. Also, ball marks, typically a major golfer complaint and irritant for superintendents, are eliminated due to the firmness of ultradwarfs.

The major reason for the conversion, however, was not operational cost savings, although annual operational budgets have been reduced by 12% since this project. The majority of play occurs from April through October, when bentgrass greens didn't provide optimum quality, especially in the summertime and considering green speed and firmness. Regardless of the turfgrass type, the membership wanted firmer and faster greens when they played the most golf. These requirements just weren't possible with bentgrass, especially during July and August when most competitions were held. Another positive result was that golf outings, previously never held from June 15 to Labor Day with bentgrass, are now possible during the summer months for added extra revenue, a big plus.

The PGA Championship will be held August 8-14, 2011, at Highlands, and an ultradwarf provides the best opportunity for a successful major championship. In 2001, the PGA was played at the Atlanta Athletic Club, too, but the greens were creeping bentgrass. Expect to see firmer and faster greens with minimal risk of turf loss prior to and during the 2011 PGA Championship.

Another unexpected advantage of ultradwarf greens occurs during the winter. In addition to winter injury protection, Mangum decided to use covers to keep frost off the putting greens in late fall to early winter. This reduced the amount of time the course was closed for frost delays compared to the Club's other course, the Riverside Course, which has bentgrass greens. Covers on the Highlands are removed in the morning when temperatures are above 32 degrees, usually at 9:30 or 10 AM. Play begins immediately. The soil temperatures are 12-14 degrees warmer under the covers. Riverside



*Surface management programs, including the use of brushes on the mowers, have been developed to optimize putting quality.*

Overall operational budget savings since the conversion now range from 25% to 30% annually. Fewer employees are needed to maintain the putting greens, and the overall course conditions are even better. Additionally, the quality of life for the golf course maintenance employees and their families has also improved. Typically, the maintenance staff worked 60 to 80 hours per week in the summer with bentgrass, but not anymore. "The Oaks Course would be out of business now without this change to Champion. We had to do it," according to Mr. Schulz. For additional information on this case study, read this article from

course and grounds at the Atlanta Athletic Club, remembers Jerry Pate, winner of the 1976 U.S. Open at this facility, looking at a bentgrass green with Sub-Air and two fans on the Highlands Course prior to the conversion and saying, "Maybe bentgrass is the wrong grass for this location." Keeping bentgrass on life support for 90 to 100 days costs significant dollars in the Atlanta area. By changing to Champion ultradwarf at Highlands, Mangum reduced the cost of fan power by \$15,000, fungicides by \$15,000, and wilt watch overtime labor by another \$15,000. The conversion cost was recovered in two years. Intangible



greens usually open one to two hours later due to frost. Additional labor hours are required for covering, but when the covers will be used the staff changes work hours from 7 AM - 3 PM to 9 AM - 5 PM. The workers install the covers following the last group of the day. This prevents overtime on ultradwarfs, unlike the high overtime required in the past for the wilt watch on the bentgrass.

To provide contrast and winter color, the ultradwarf greens are painted in the winter. Ball roll and putting quality are just as good on greens painted with turf colorants during the winter as they are in the summer. The lowest quality on the Highlands greens occurs during the last two to three weeks prior to green up. Once the greens break dormancy in early to mid March, the greens just get better and better each day.

## MAKING AN ULTRADWARF WORK

Planting an ultradwarf is a good first step, but the key to success is proper management. We estimate plant genetics is only 30% of the equation, and management/skill of the superintendent is the other 70%. Planting the grass is not enough. Elevating the playing quality requires additional competency due to the unique vertical and lateral growth habit of the ultradwarfs. The skill and attitude of the superintendent are of paramount importance.

Rodney Lingle, golf superintendent at Memphis Country Club, Memphis, Tennessee, has pioneered new management programs for ultradwarf putting greens to enhance their playability. The surface management system developed over ten years of practical management and experience at Memphis Country Club has been termed the "Lingle System" by his followers. The individual components of the management program are not complicated by themselves, but the challenge becomes understanding how they integrate with each other. A superintendent with high-quality ultradwarf putting greens will understand how the practices of fertility, vertical mowing, grooming, brushing, topdressing, growth regulators, and mowing



*Ultradwarf bermudagrasses are valuable for championship golf in the southeast. Summer events feature greens with more firmness, faster green speeds, and less risk of turf loss compared to bentgrass.*

affect the quality of the golf surfaces. Further, the frequency, quantity, or aggressiveness of these integrated components are not fixed by a set schedule, but must be modified as temperatures, day lengths, and light intensity change. In other words, success is more dependent on proper management knowledge than on budget. For more information about the latest information on ultradwarf surface management techniques and strategies, call or email the Southeast Region office to schedule a Turfgrass Advisory Visit.

## PUTTING IT TOGETHER

The saying "necessity is the mother of invention" is appropriate to close this article. The golf industry is challenged economically right now, and golfers continue to desire a product that is as good or better than what has been provided with bentgrass putting greens. This is a big need. The ultradwarf

bermudagrasses have moved forward to fill this gap. Golf facilities that have made the switch from creeping bentgrass putting greens to an ultradwarf are benefitting financially while maintaining or improving the overall standard for putting quality. Golfers from the high-handicapper to the game's elite are enjoying these new surfaces, too. We do not see anyone going back, either. Ultimately, it will not be an agronomist or the USGA that determines whether this new business model is here to stay. The golfers and the decision on where, when, and how often they play will be the last word.

PATRICK O'BRIEN and CHRISTOPHER HARTWIGER of the USGA Green Section Southeast Region both learned to play golf at low-cost public golf facilities and enjoy helping others improve their business models.